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NANOSCALE COHERENT OPTICAL  
COMPONENTS

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Docket No.: H0498.70203US01

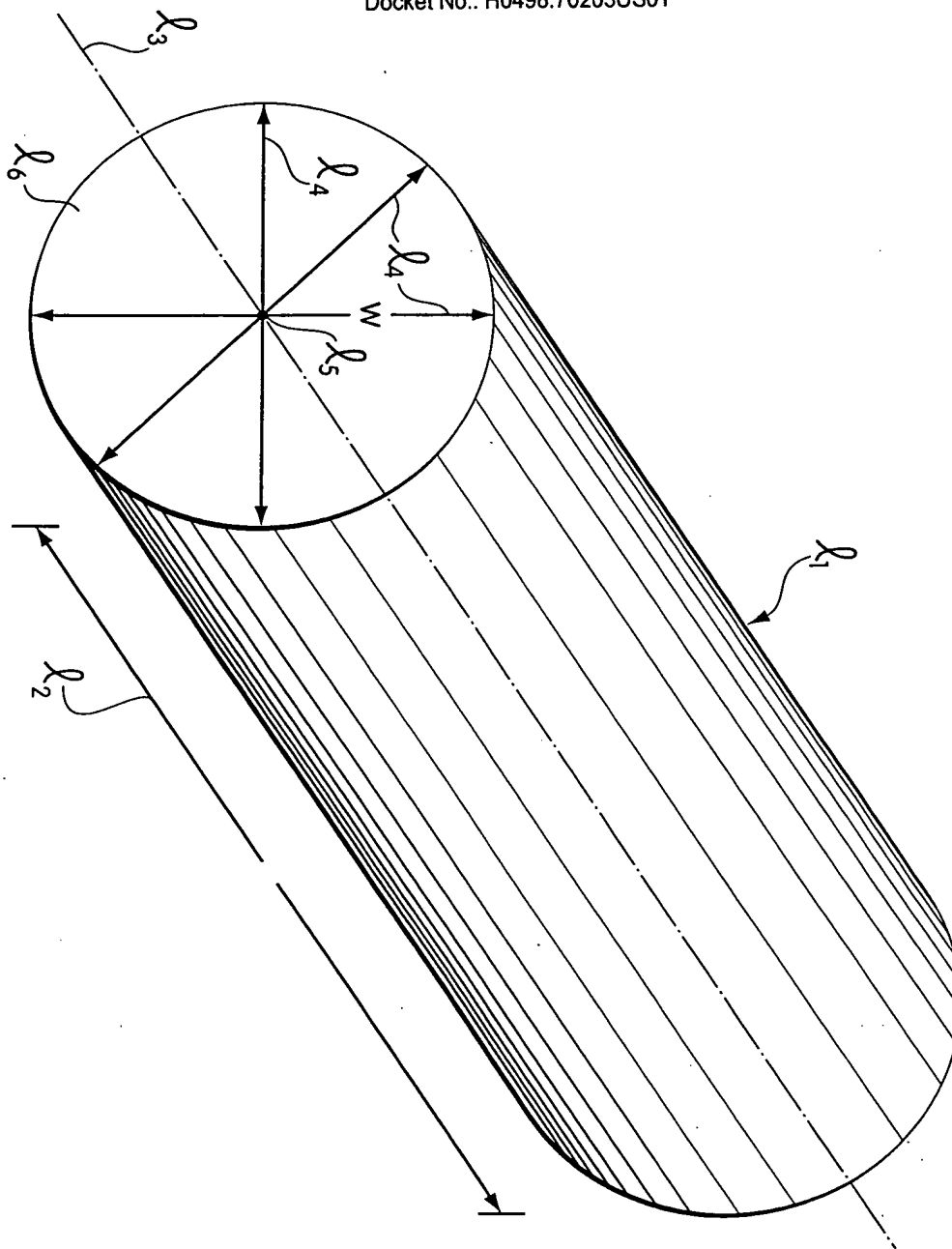


Fig. 1

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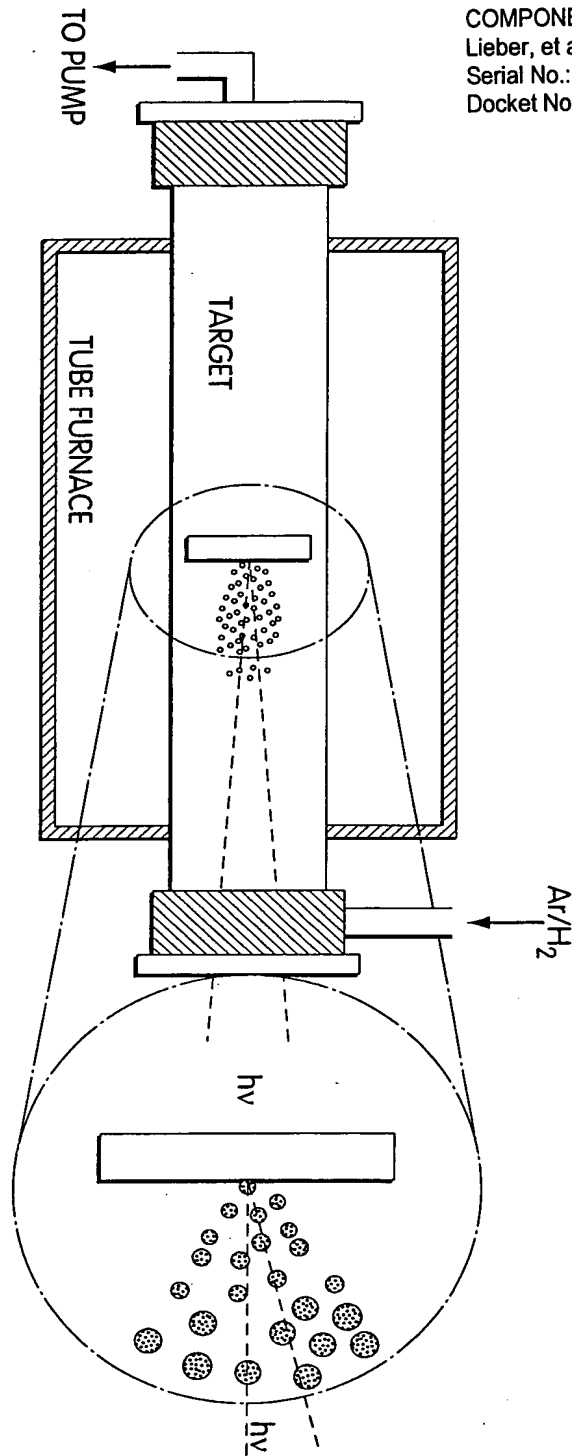


Fig. 2

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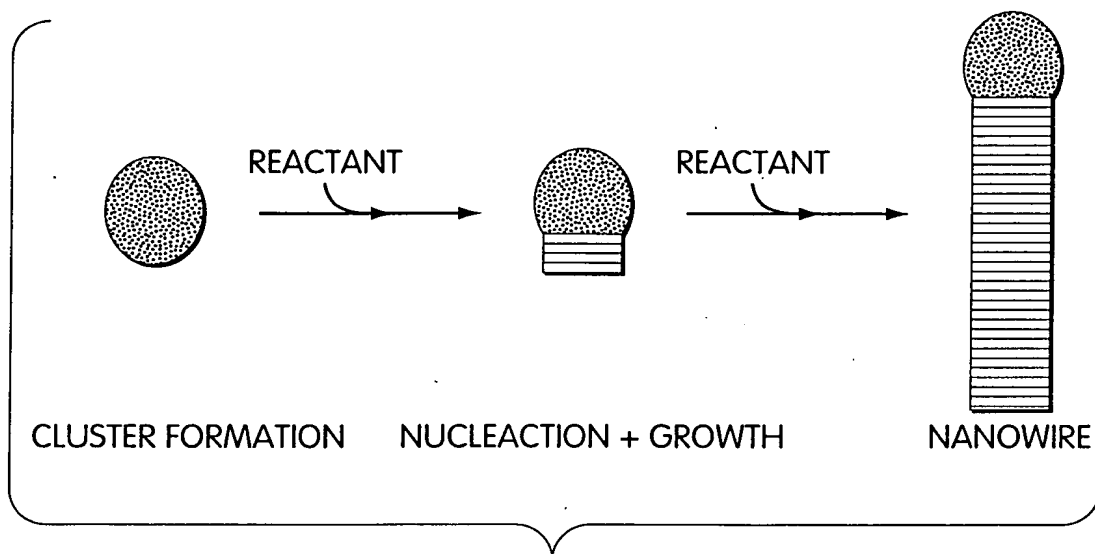


Fig. 3

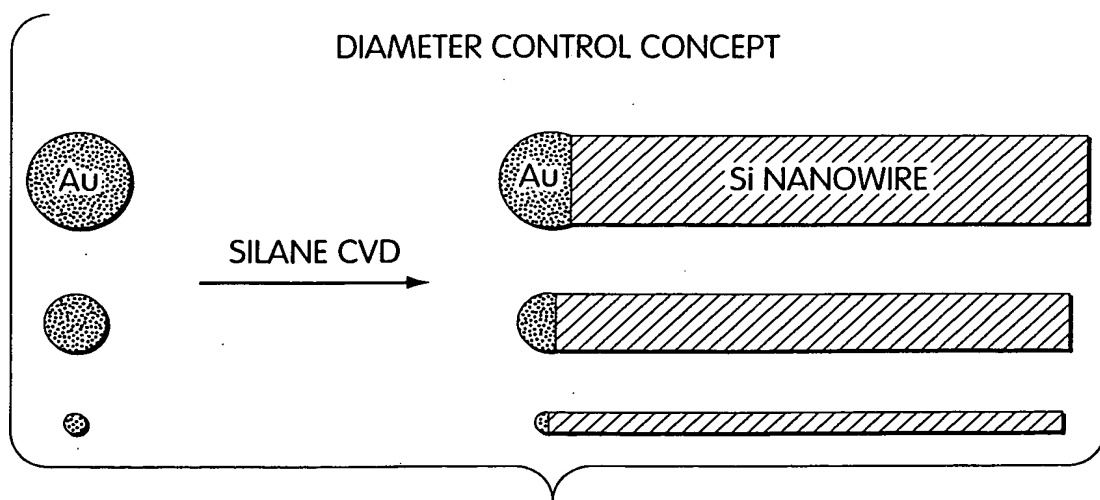


Fig. 4

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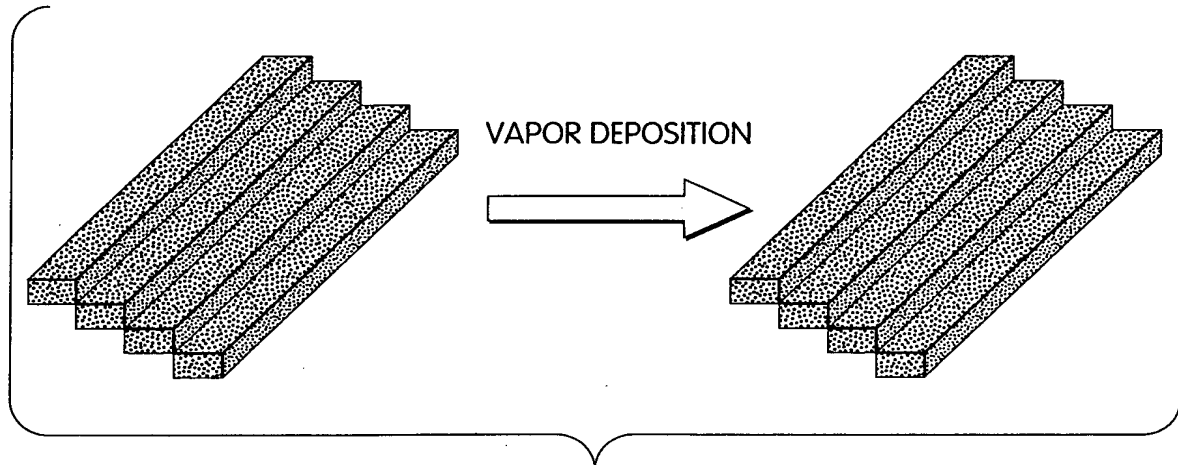


Fig. 5

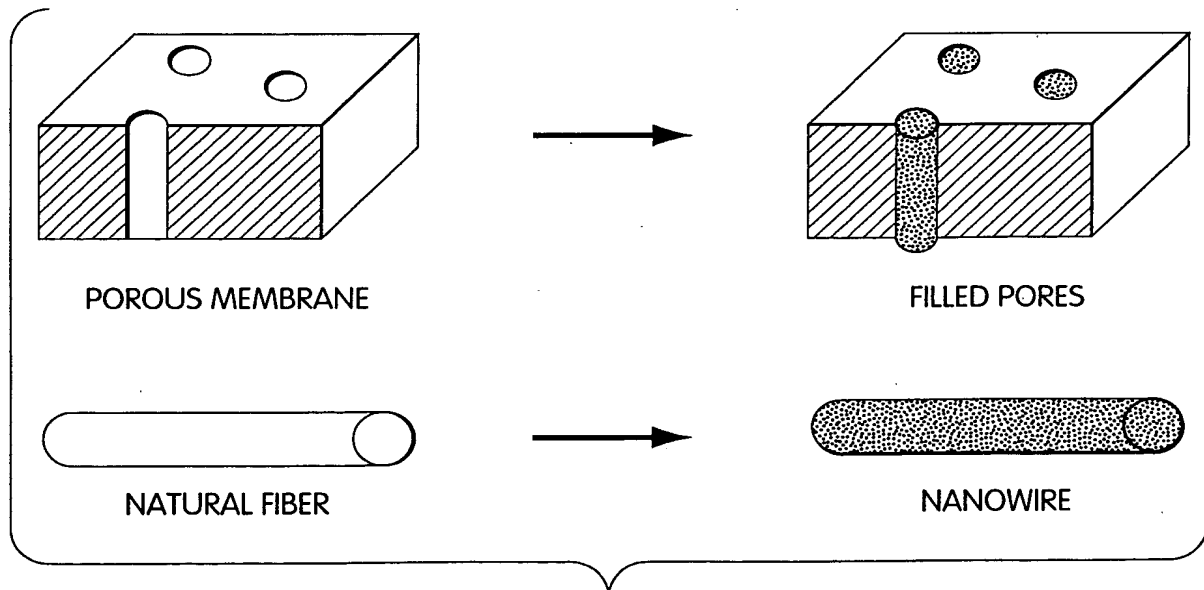


Fig. 6

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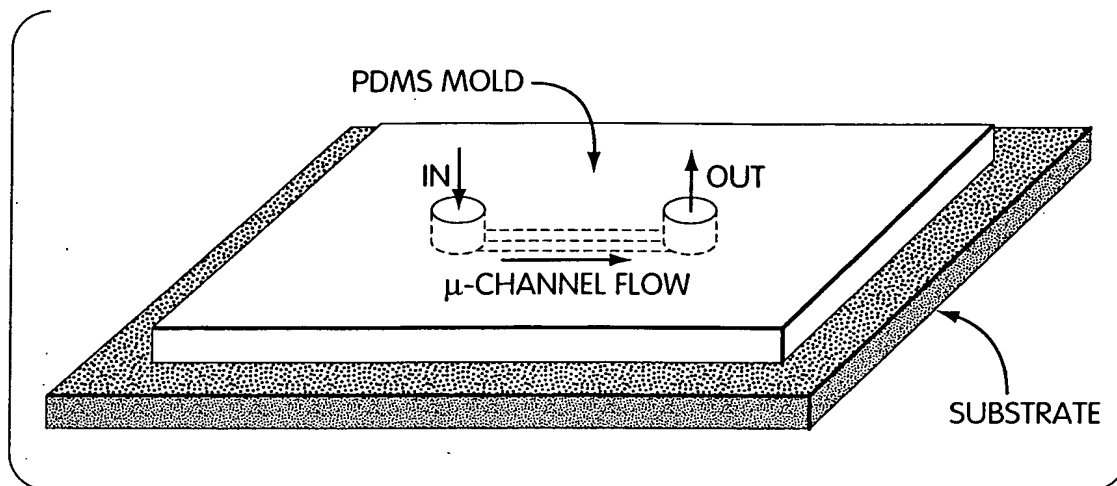


Fig. 7A

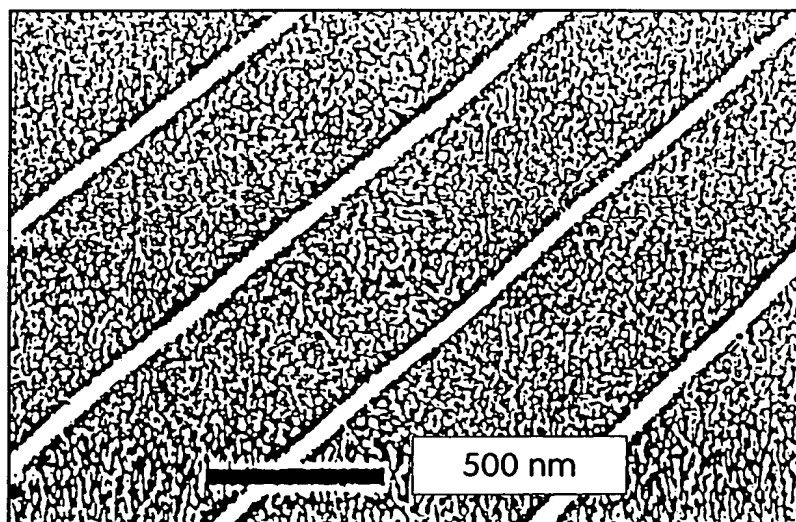


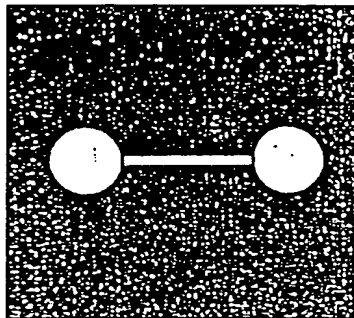
Fig. 7B

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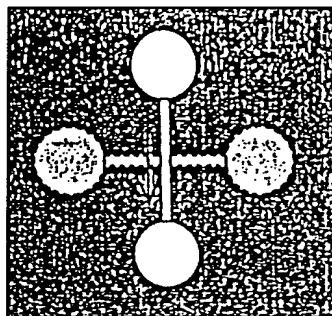
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First layer

Fig. 7C



Second layer

Fig. 7D

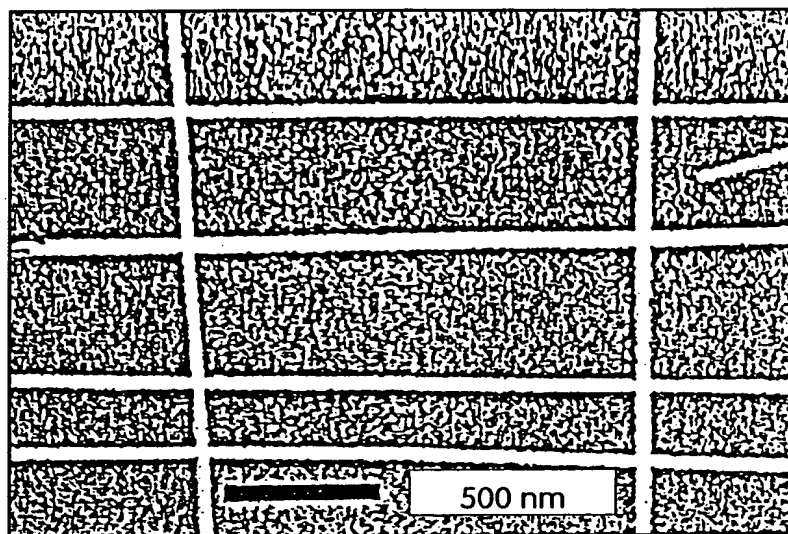


Fig. 7E

## I. DIRECT GROWTH

### (a) DEFINE NANOCLUSTER CATALYST



### (b) INITIAL LCG SEMICONDUCTOR GROWTH



### (c) SECOND LCG SEMICONDUCTOR GROWTH

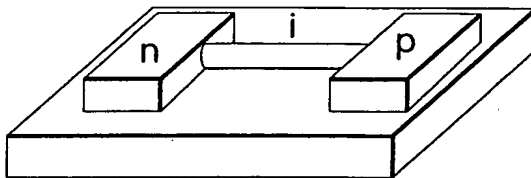


### (d) REPEAT (b) OR (c) AS DESIRED



## II. POST-SYNTHESIS FUNCTIONALIZATION

### (a) FABRICATE NANOWIRE DEVICE



### (b) INTRODUCE DOPANTS BY ANNEALING

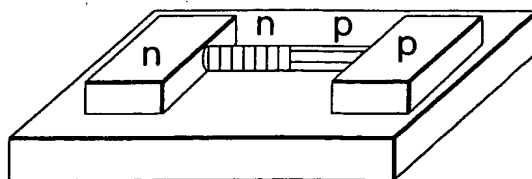


Fig. 8



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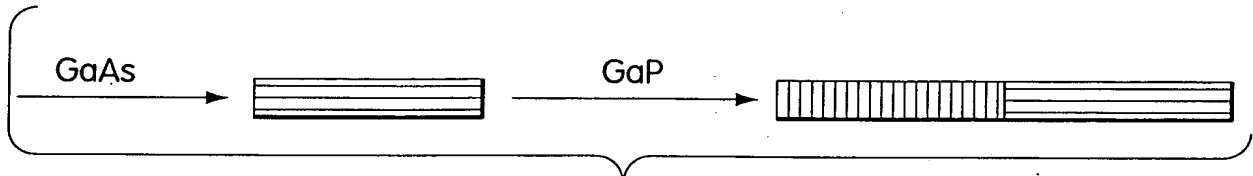


Fig. 9A

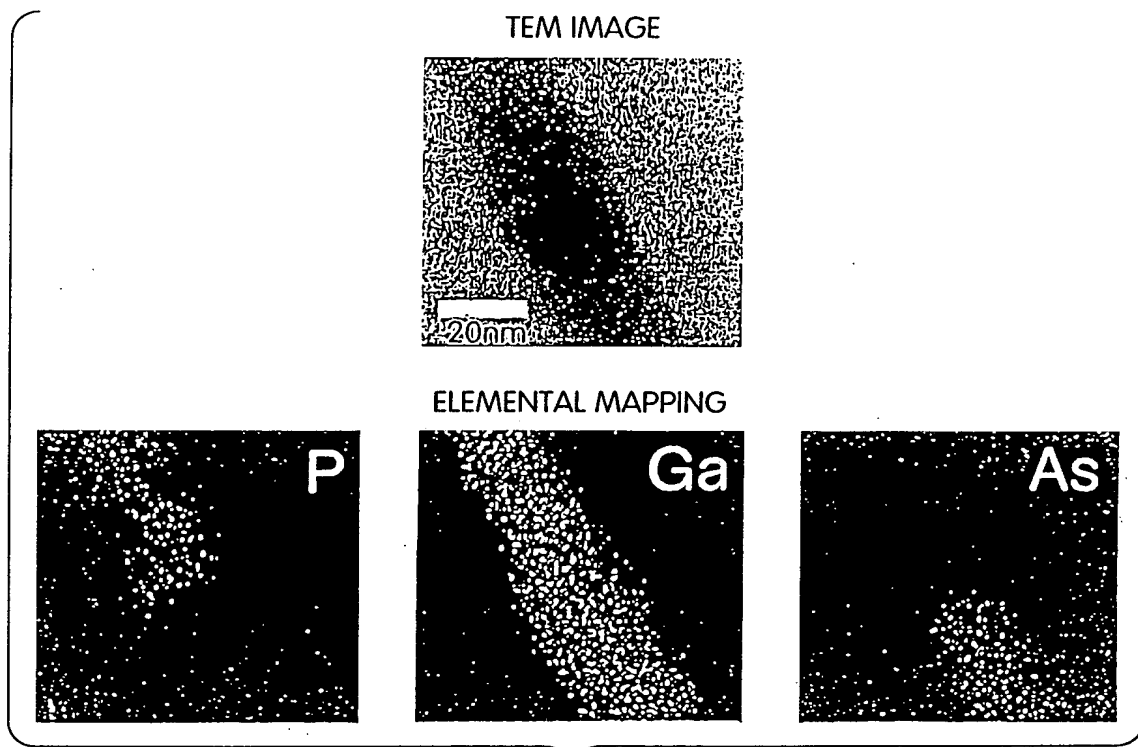


Fig. 9B

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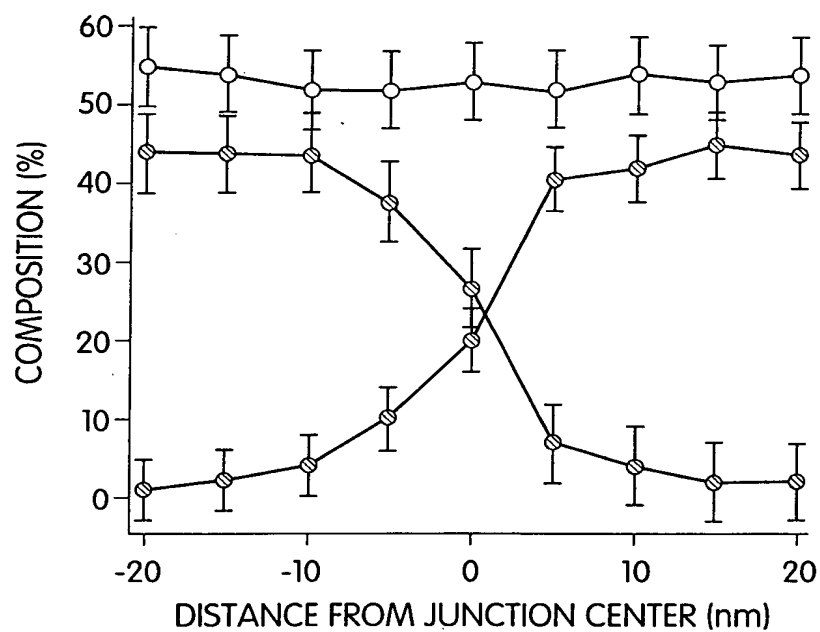


Fig. 9C

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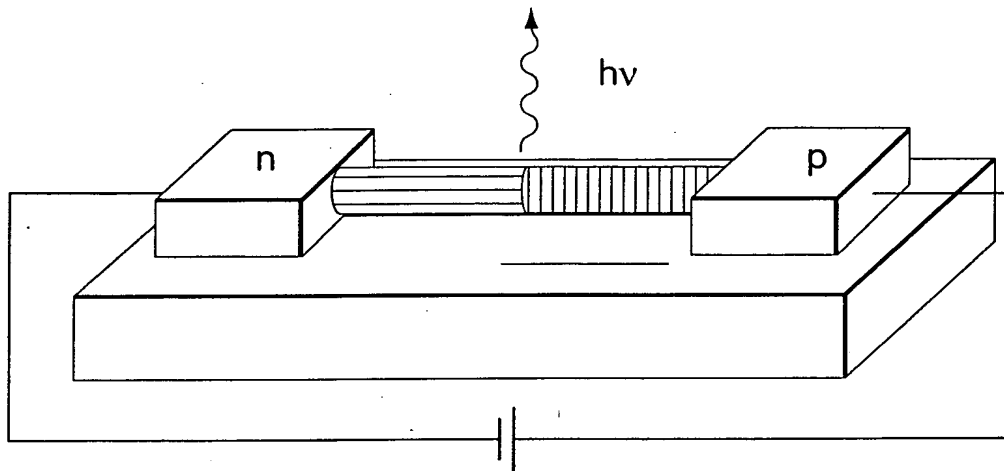


Fig. 10A

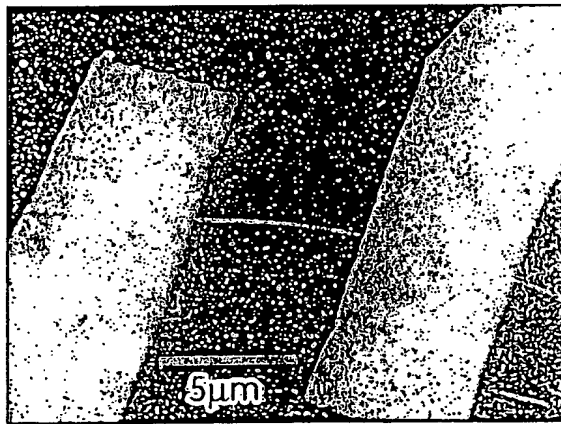


Fig. 10B

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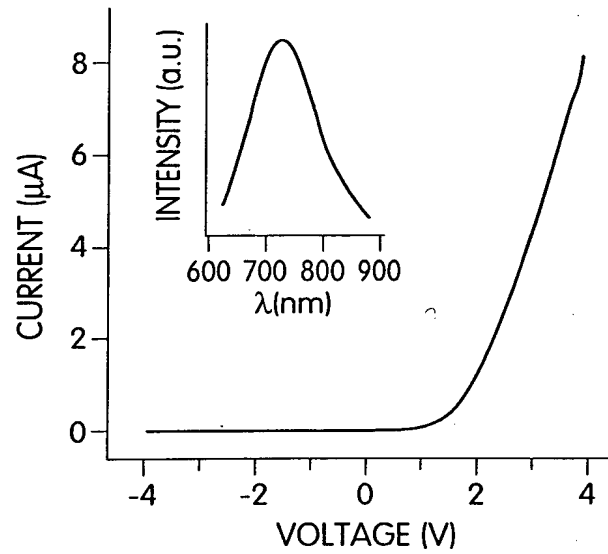


Fig. 10C

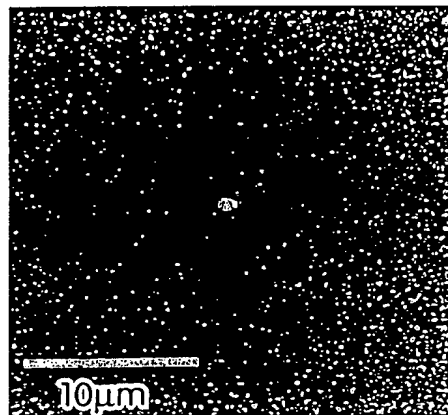


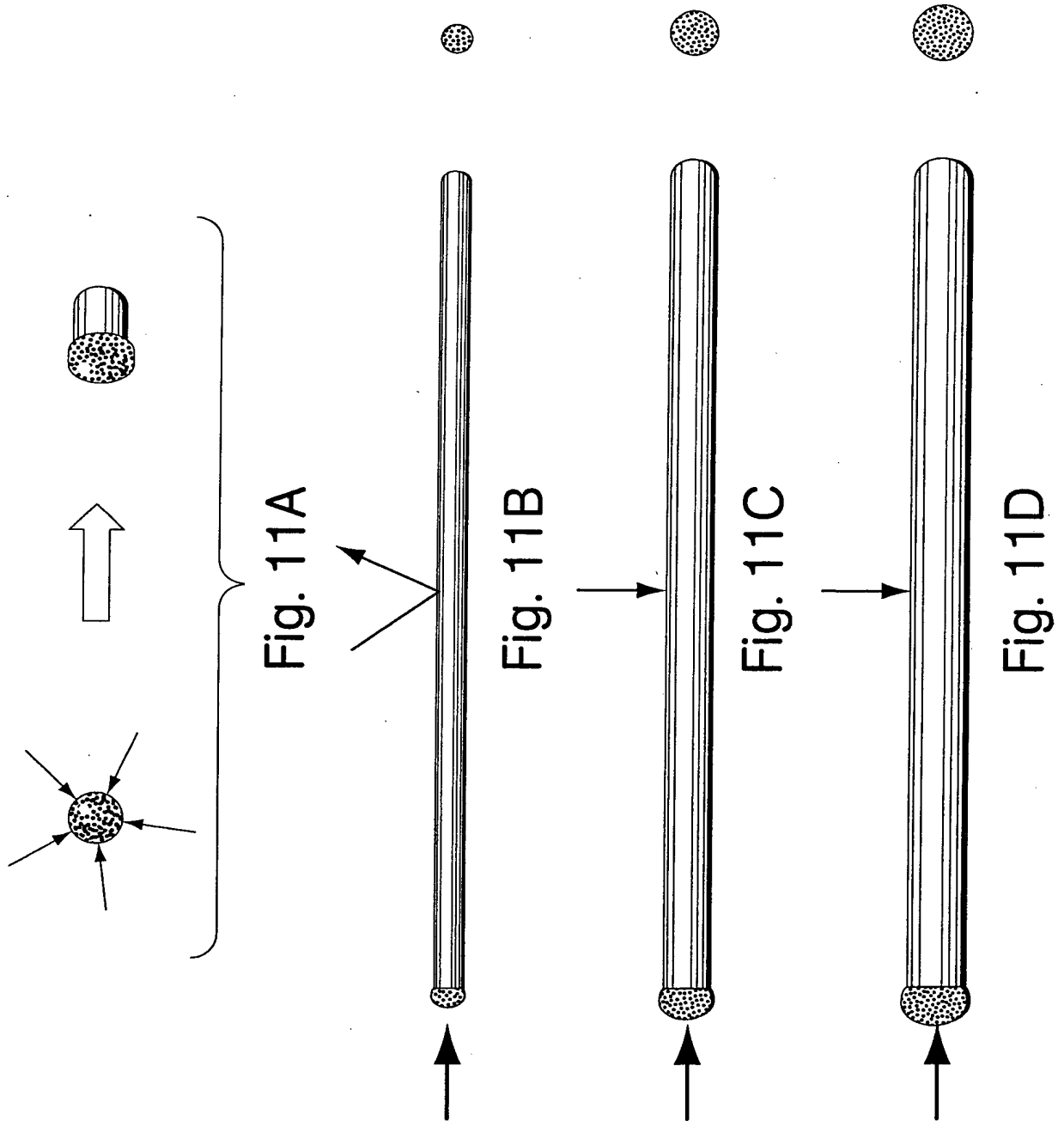
Fig. 10D

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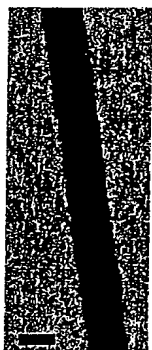


Fig. 12A

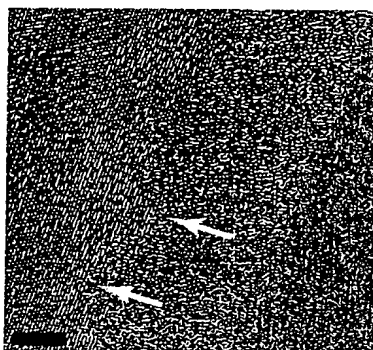


Fig. 12B



Fig. 12C

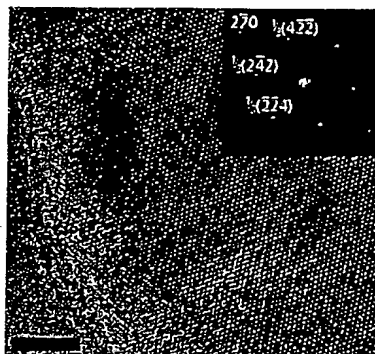


Fig. 12D



Fig. 12E

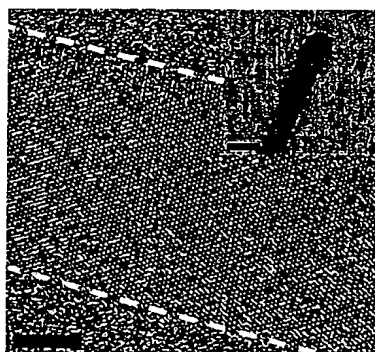


Fig. 12F

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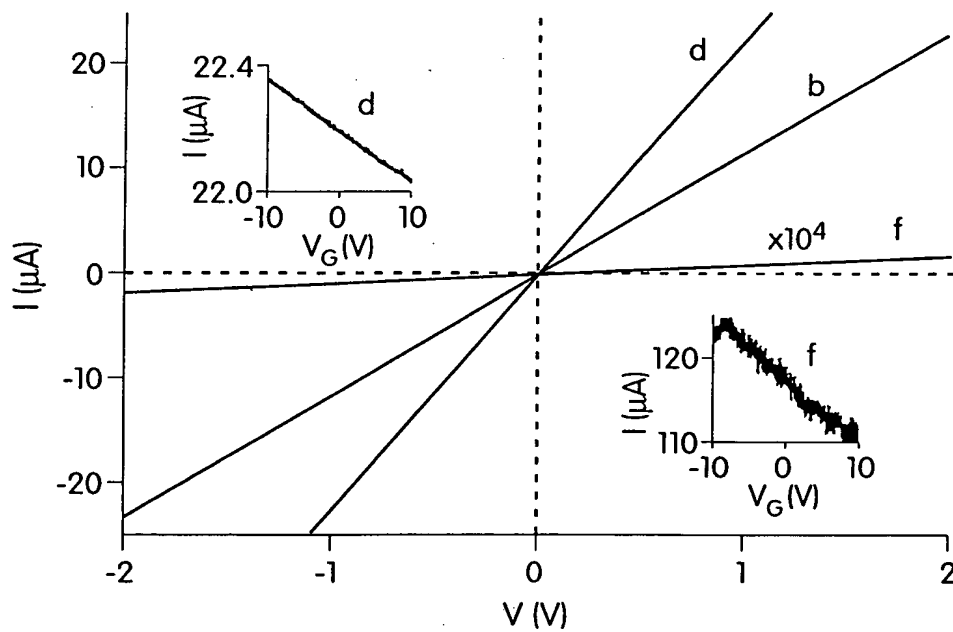


Fig. 12G

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Fig. 13A



Fig. 13B



Fig. 13C



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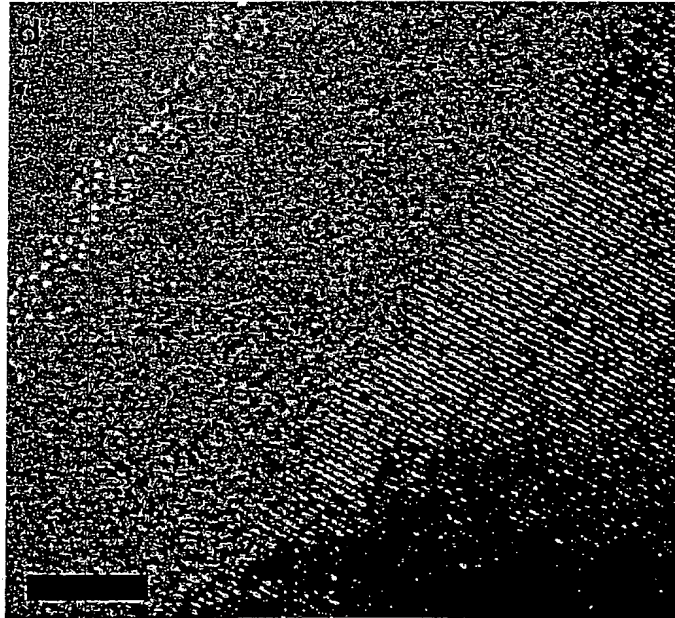


Fig. 13D

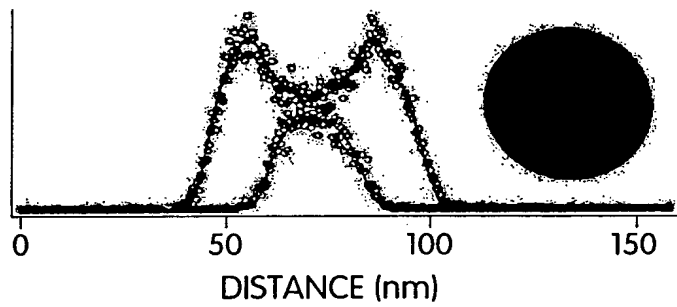


Fig. 13E

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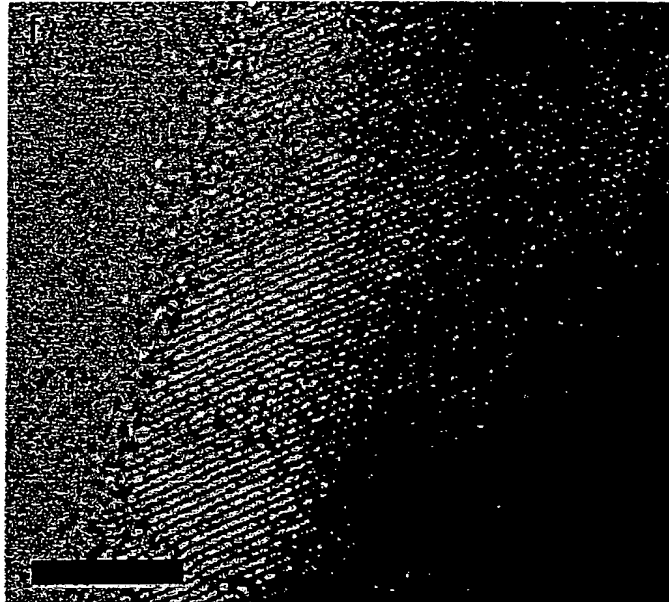


Fig. 13F

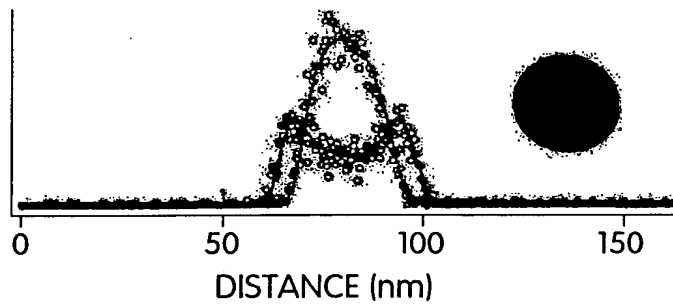


Fig. 13G

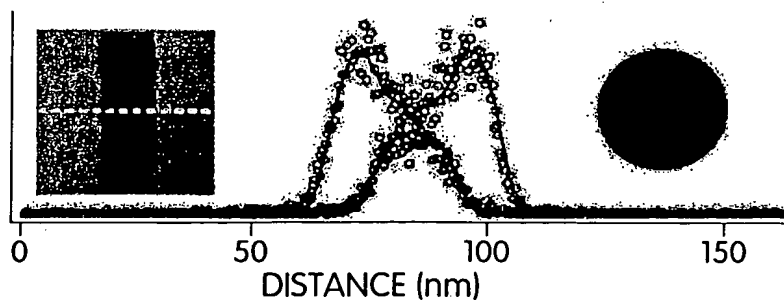


Fig. 14A

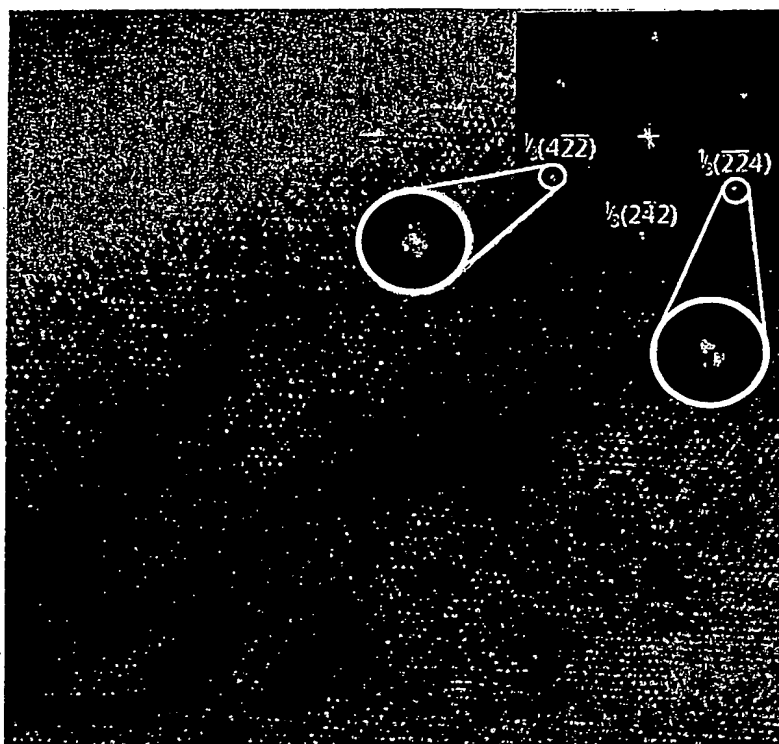


Fig. 14B

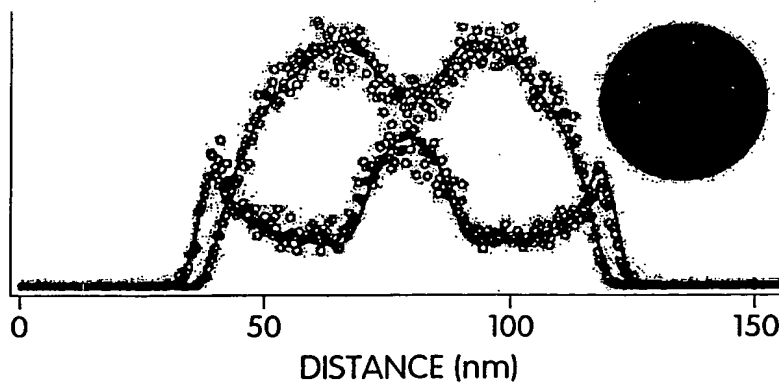


Fig. 14C

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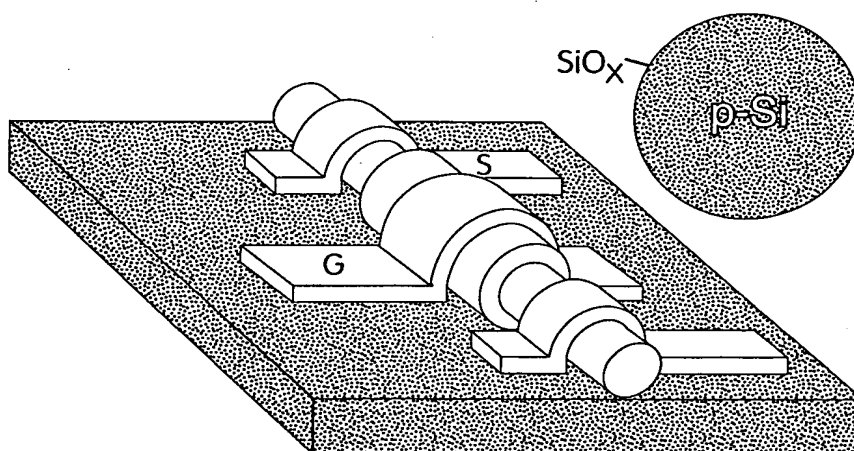


Fig. 15A

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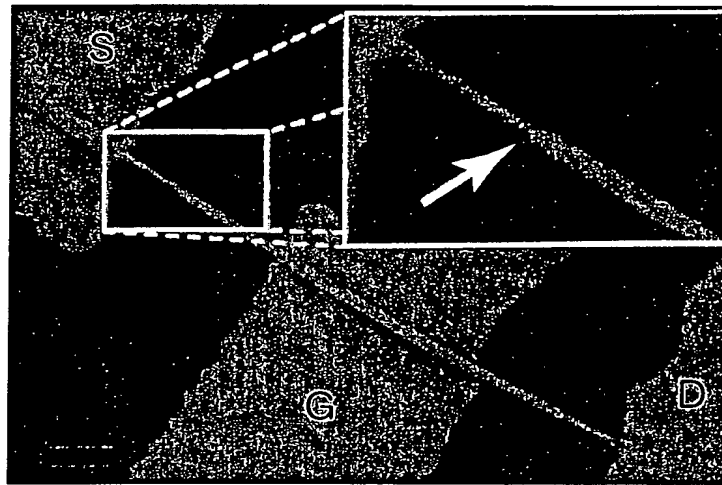


Fig. 15B

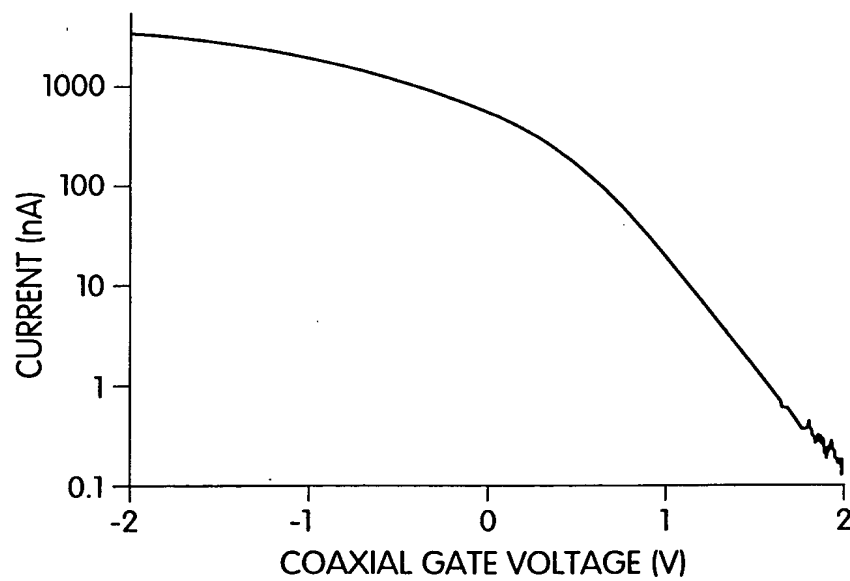


Fig. 15C

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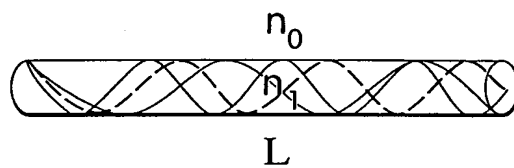


Fig. 16A

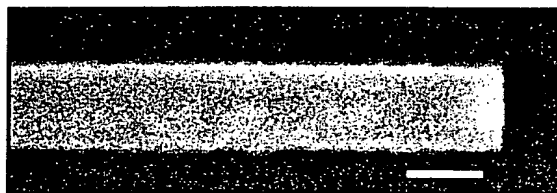


Fig. 16B

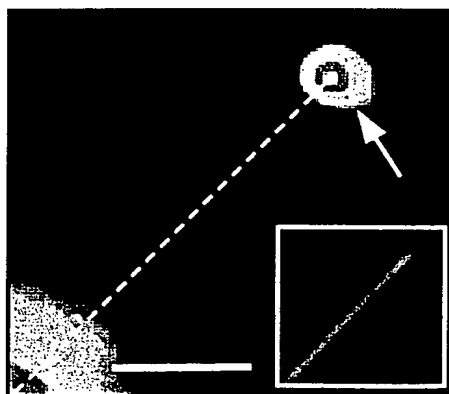


Fig. 16C

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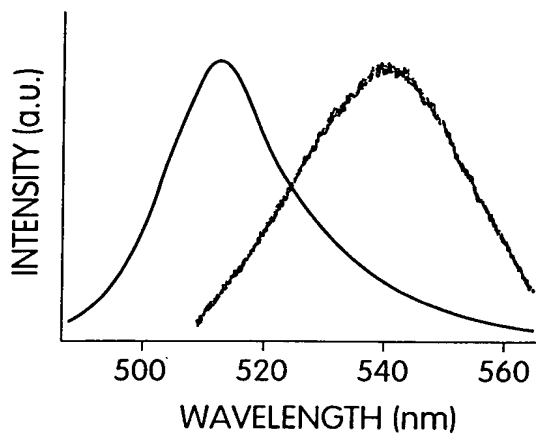


Fig. 16D

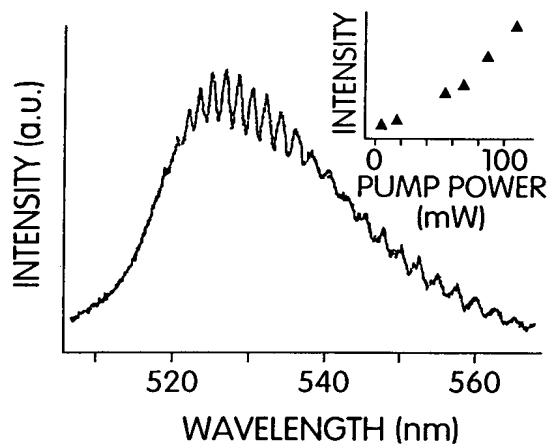


Fig. 16E

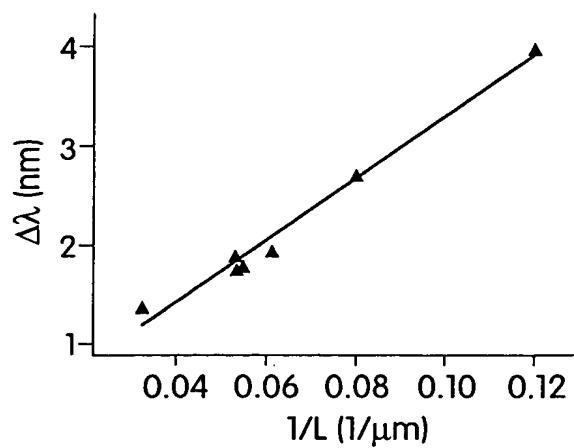


Fig. 16F

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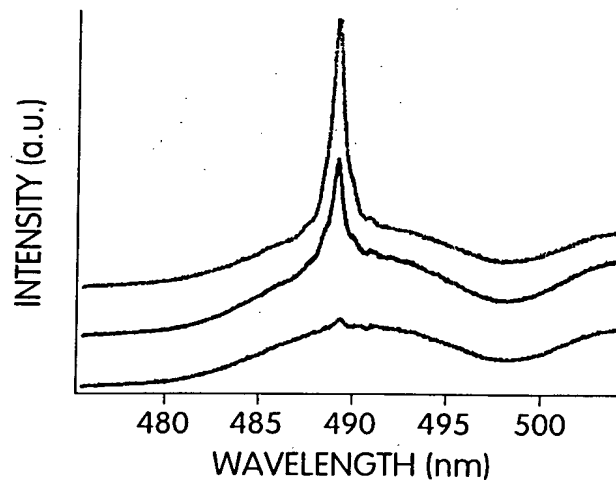


Fig. 17A

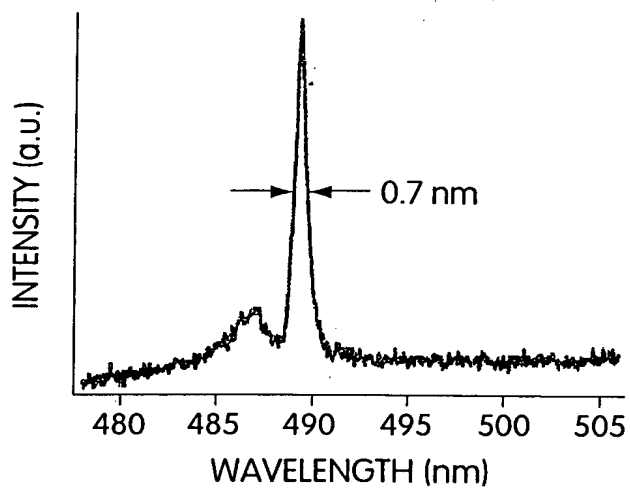


Fig. 17B

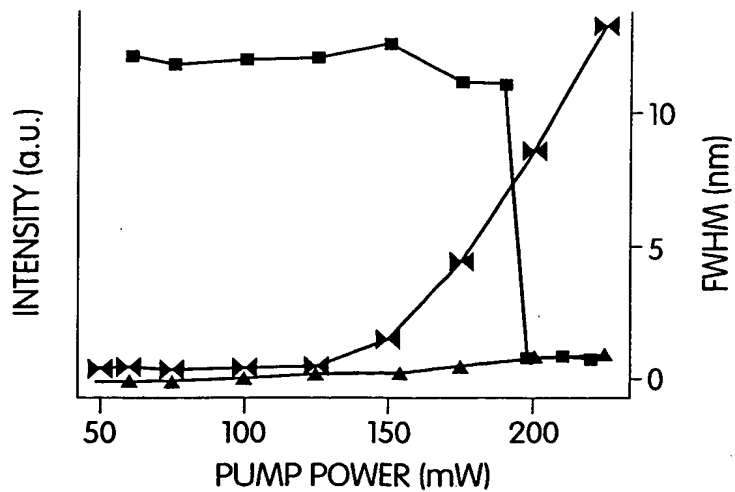


Fig. 17C



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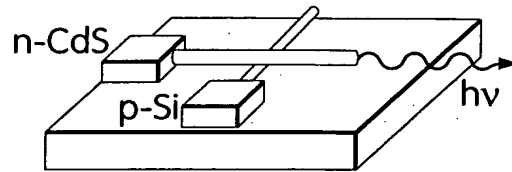


Fig. 18A

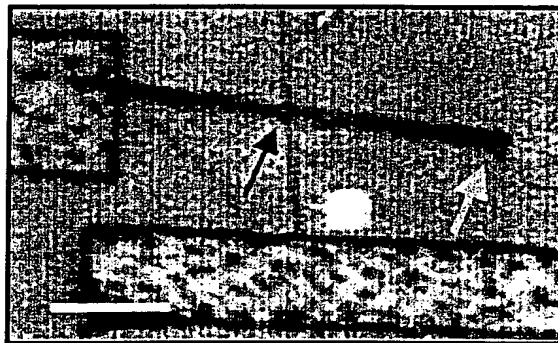


Fig. 18B

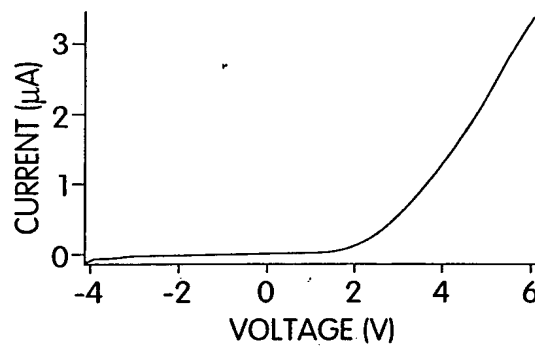


Fig. 18C

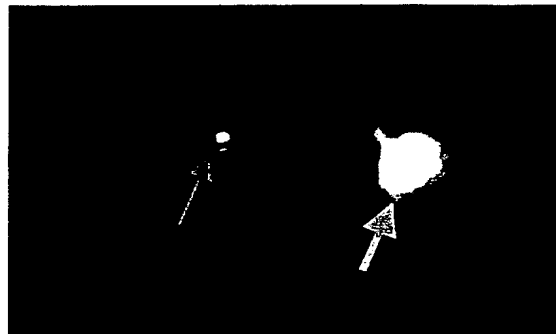


Fig. 18D

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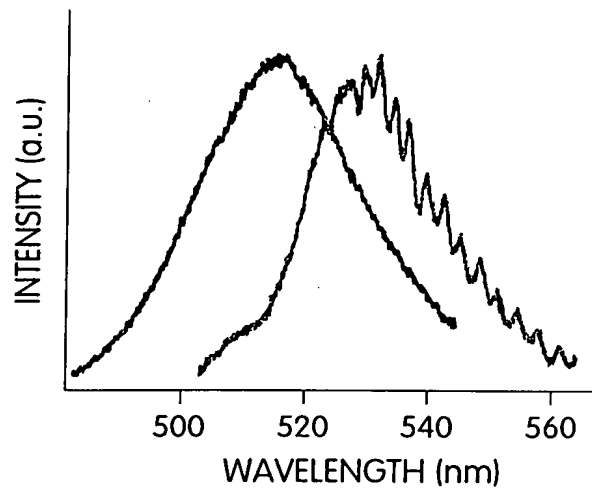


Fig. 18E

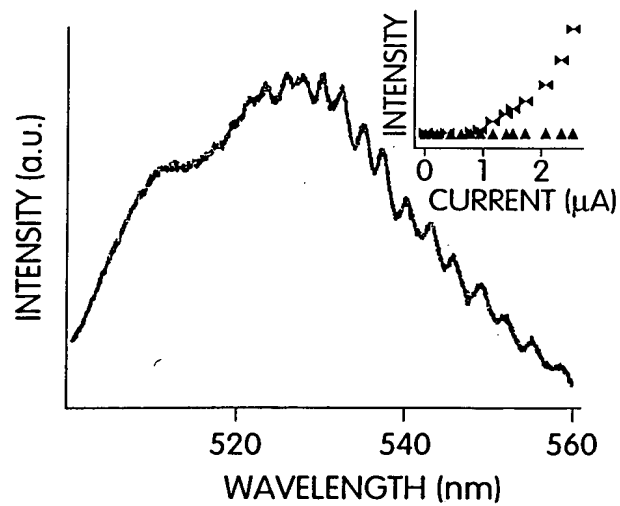


Fig. 18F

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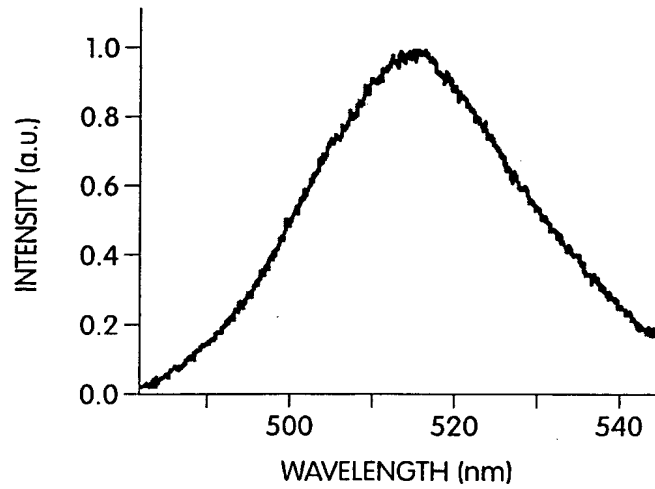


Fig. 18G

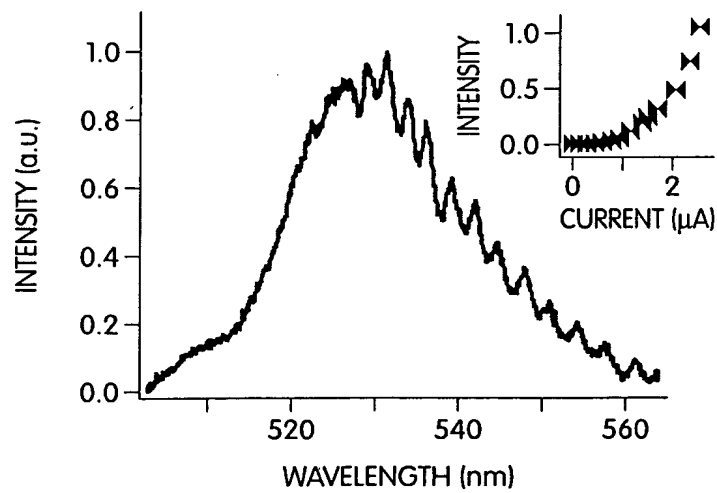


Fig. 18H

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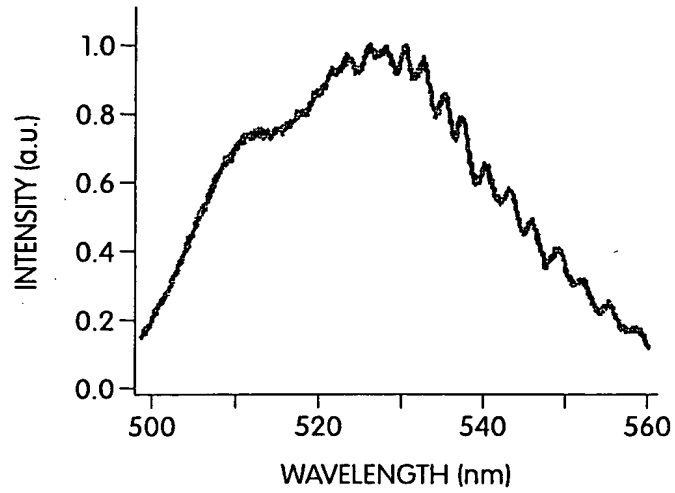


Fig. 18I

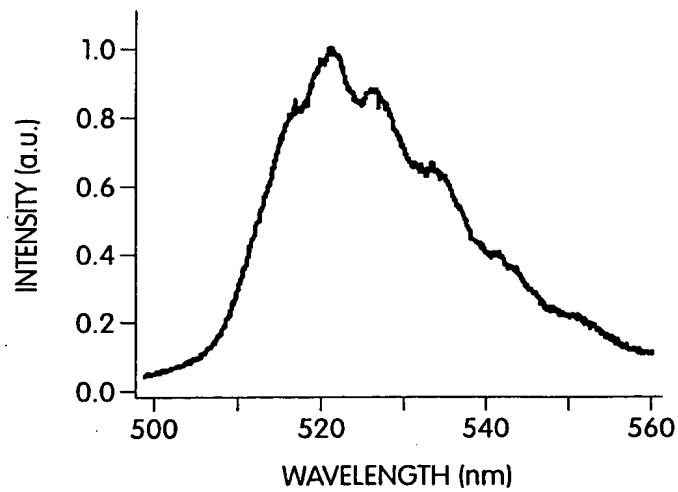


Fig. 18J

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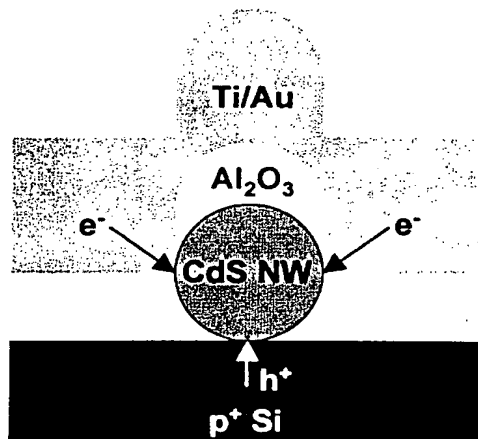


Fig. 19A

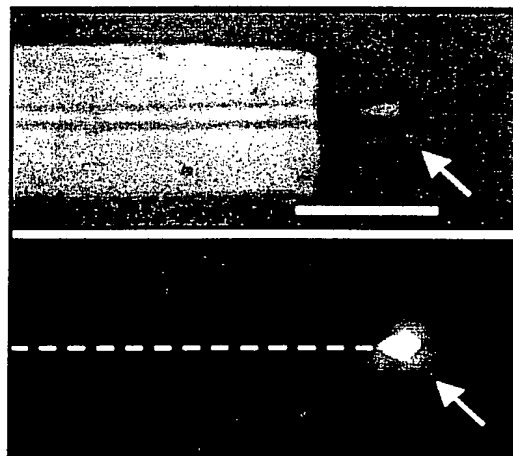


Fig. 19B

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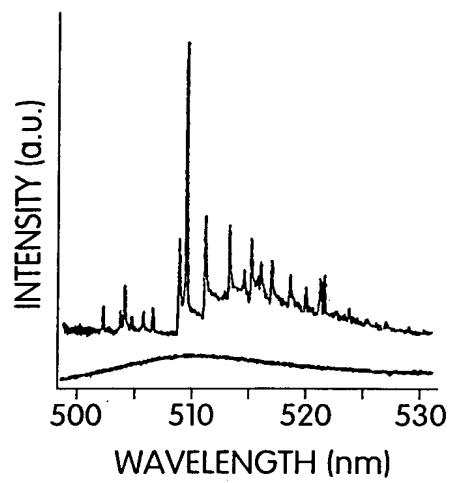


Fig. 19C

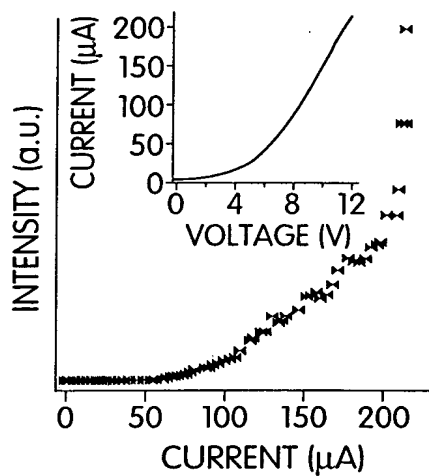


Fig. 19D

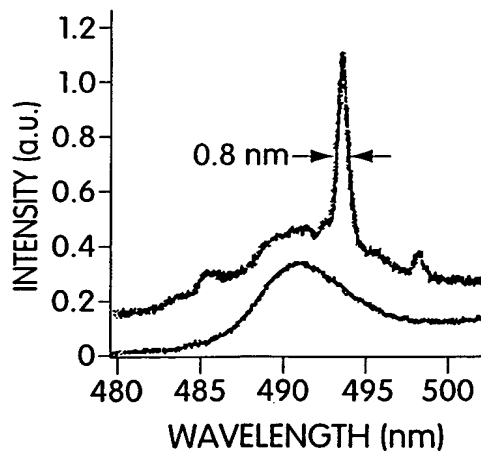


Fig. 19E

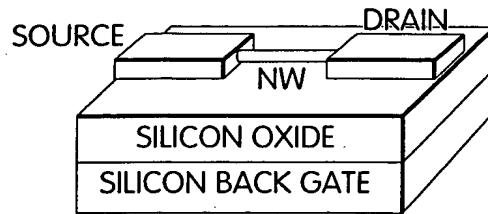


Fig. 20A

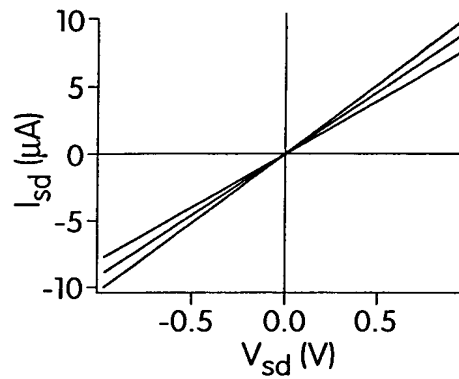


Fig. 20B

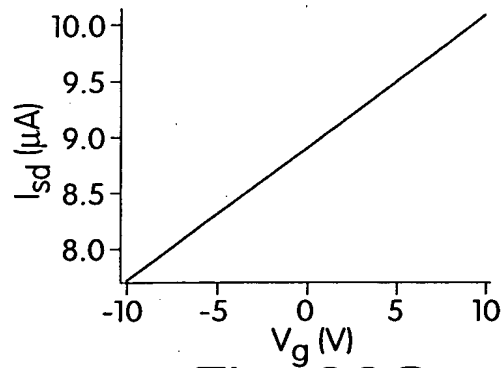


Fig. 20C

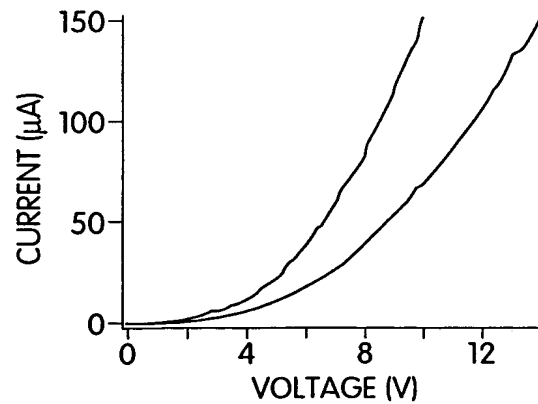


Fig. 21

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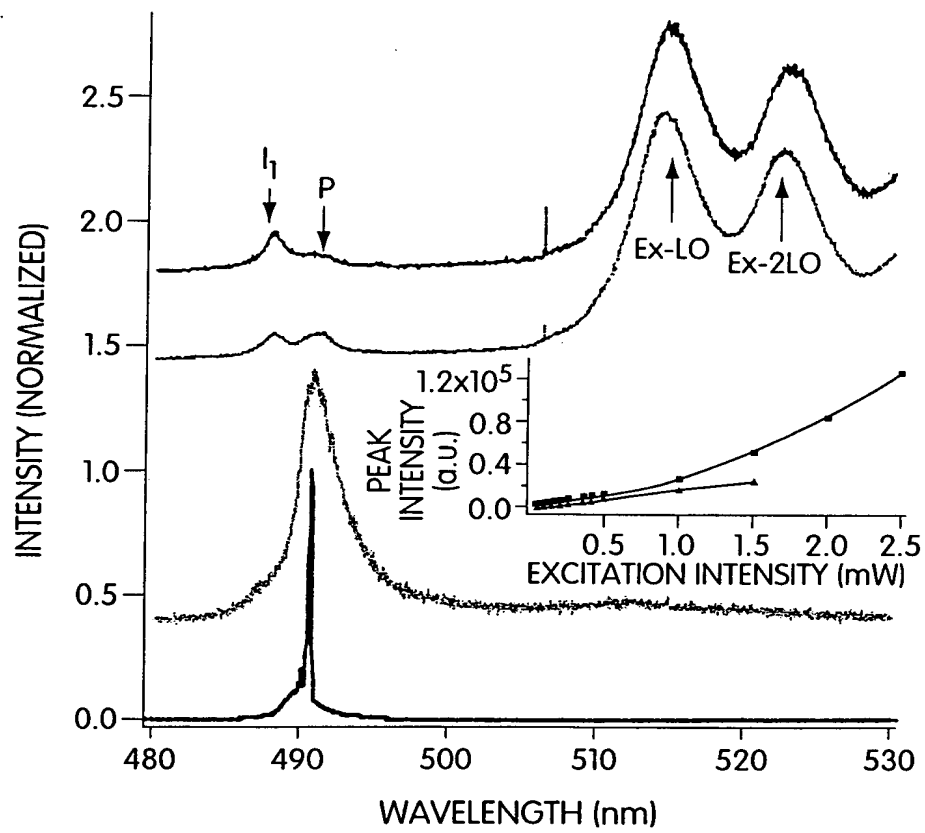


Fig. 22A



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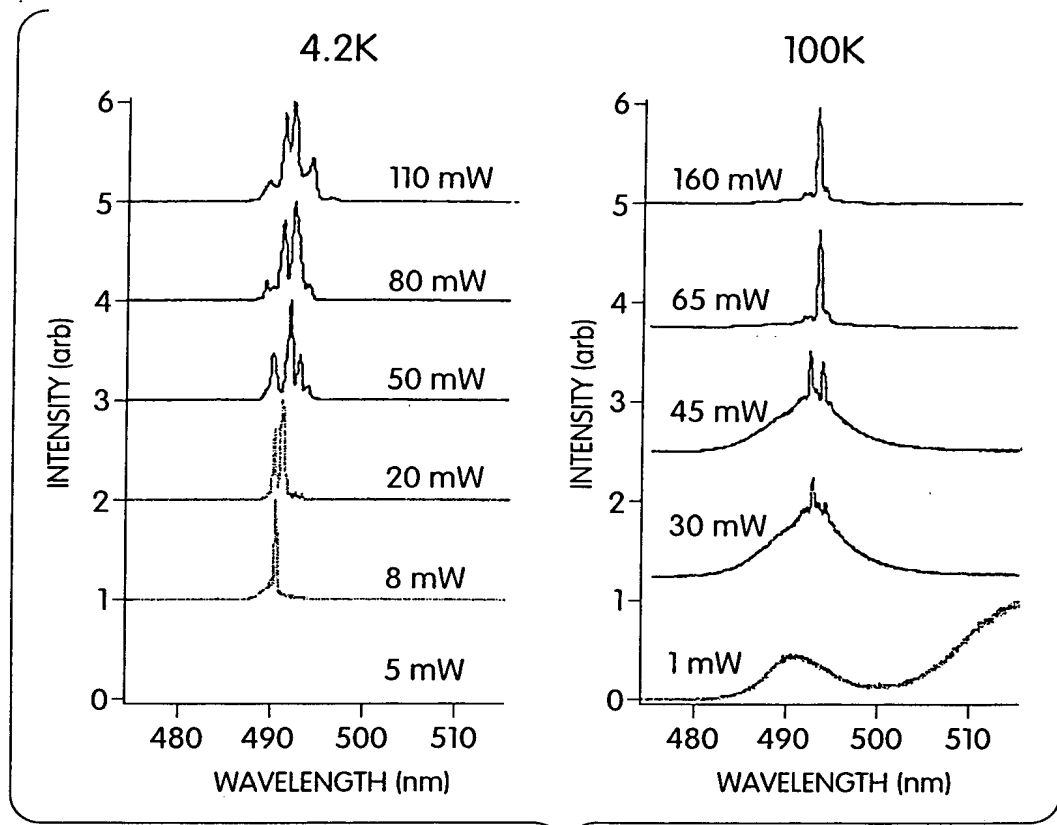


Fig. 22B

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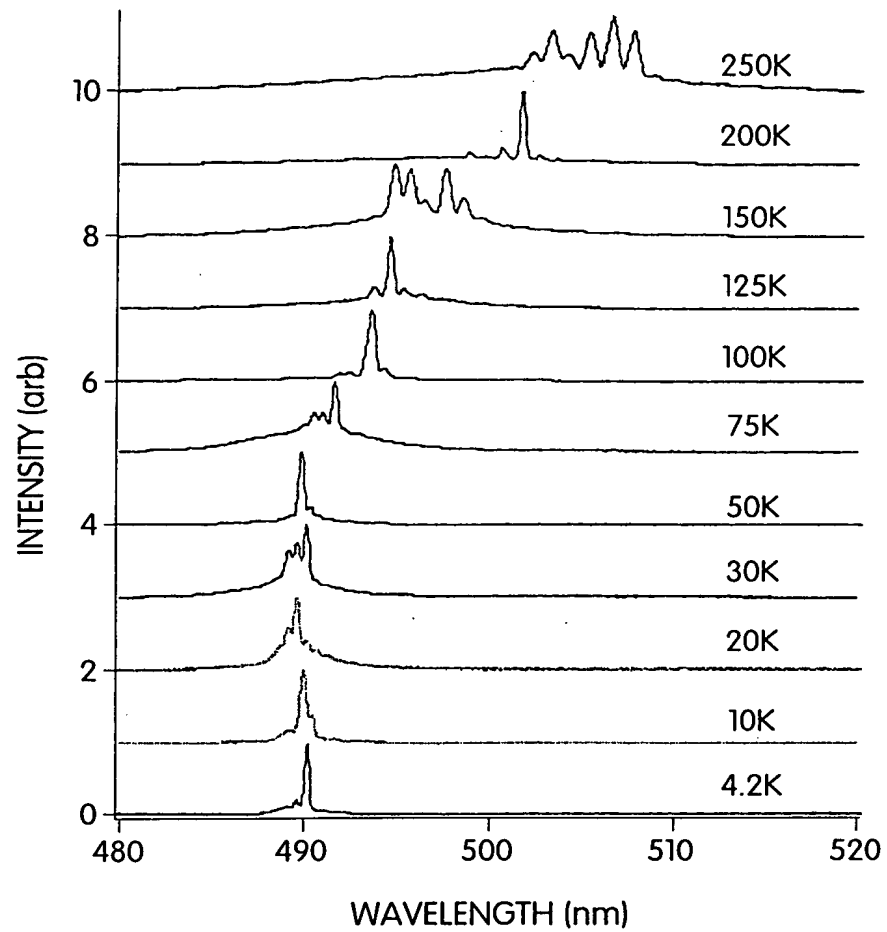


Fig. 22C

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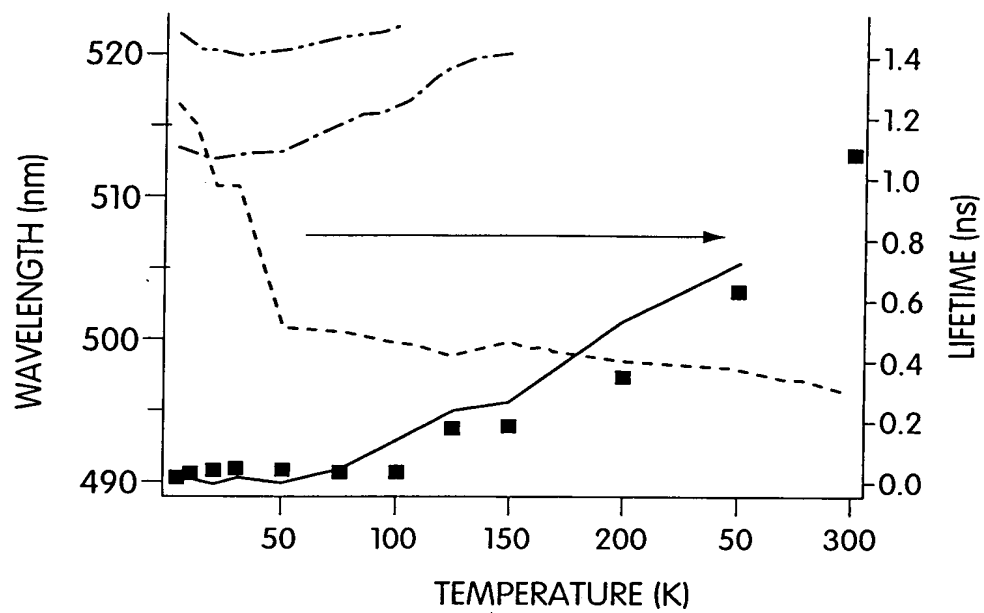


Fig. 22D

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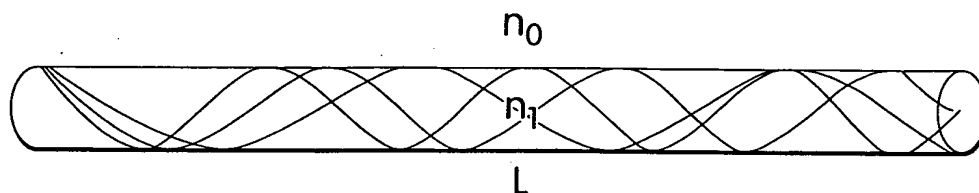


Fig. 23A

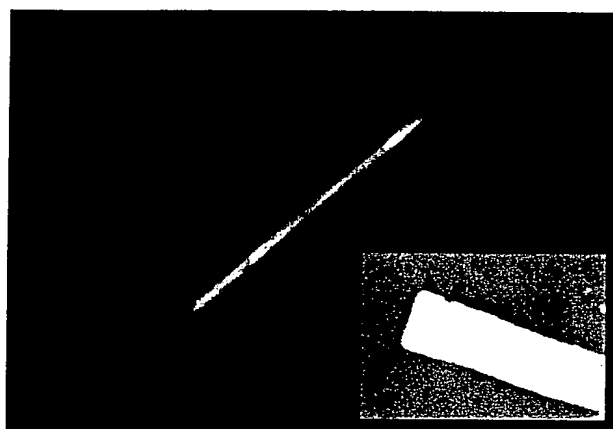


Fig. 23B

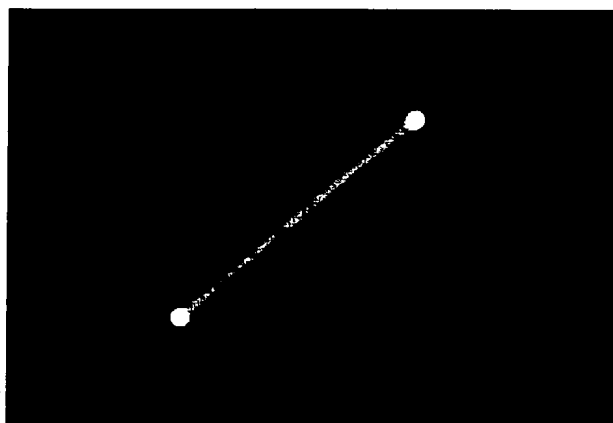


Fig. 23C

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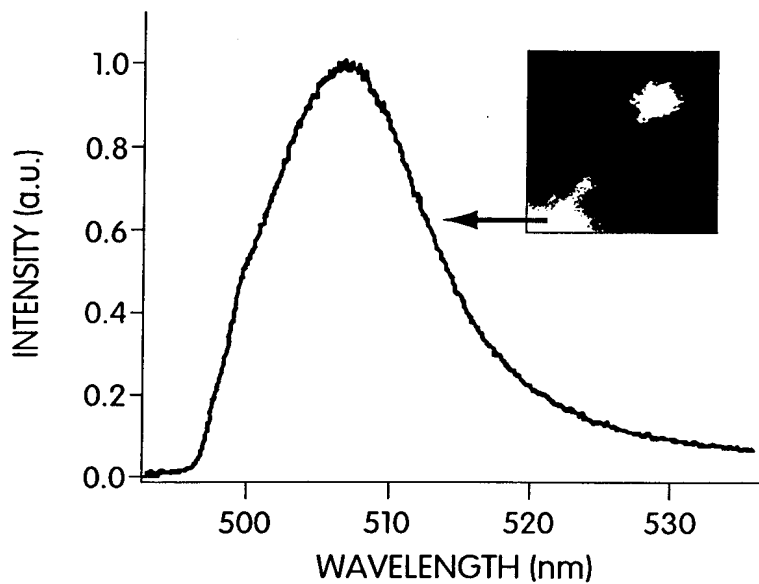


Fig. 23D

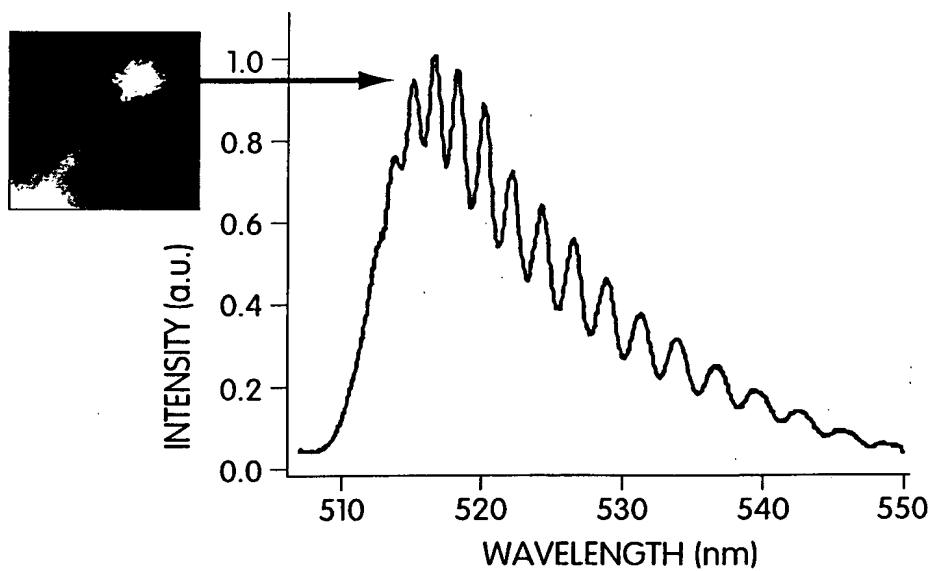


Fig. 23E

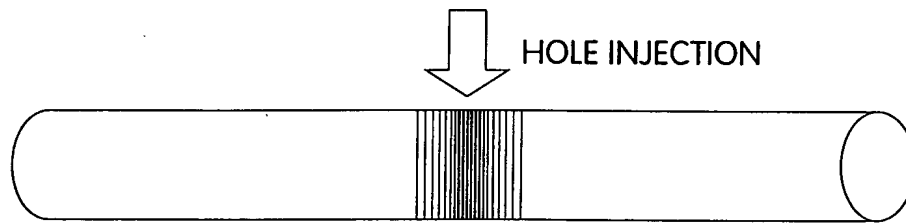


Fig. 24A

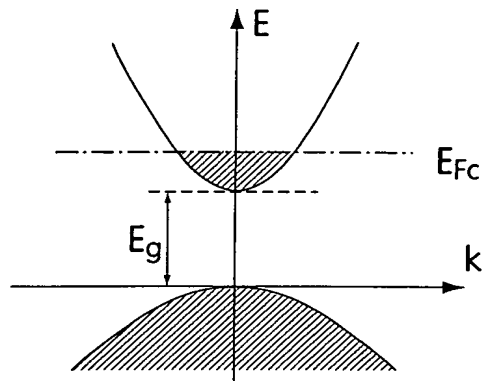


Fig. 24B

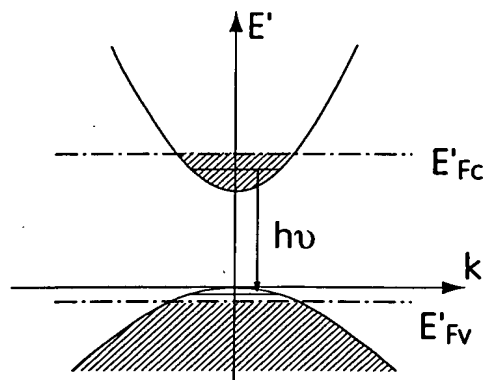


Fig. 24C